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Municipal Solid Waste Management: The States Must Pick Up Where Congress Left Off

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MUNICIPAL SOLID WASTE MANAGEMENT: THE STATES MUST PICK UP WHERE CONGRESS LEFT OFF

Federal and state governments have devoted inadequate attention to the problem of nonhazardous solid waste disposal. Congress has given the Environmental Protection Agency (EPA) little authority to regulate outside the area of hazardous wastes.[1] Moreover, federal legislation encourages little more than landfilling as a solution to the problem.[2]

This comment examines solid waste management strategies which present alternatives to landfilling. The EPA has encouraged the incineration of solid wastes.[3] However, incineration may pose more environmental problems than it resolves.[4] The EPA has not encouraged recycling programs which could achieve more environmentally protective results.

This comment also discusses the state's responsibility for solid waste management. Currently, municipalities bear the brunt of this problem.[5] However, the municipalities' plans have resulted in inadequate and isolated solid waste management pockets throughout the country. Fortunately, the states are beginning to respond to this problem.

MUNICIPAL SOLID WASTE - A NEGLECTED PROBLEM

Municipal solid waste is the garbage generated by households. This category of nonhazardous waste is also called "post-consumer" waste.[6] The United States generates more municipal solid waste than any other country in the world.[7] Japan, the next closest competitor, generates only twenty-five percent as much waste.[8]

Because increased regulation of water and air pollution in the early 1970s[9]

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[1] 42 U.S.C.A. §§ 6901-92k (West 1983 & Supp. 1989).

[2] *Id* § 6946.

[3] Environmental Assessment of Financial Assistance for Energy Recovery from Industrial Waste, 45 Fed. Reg. 67,038 (1980).

[4] *See* Assessment of Municipal Waste Combustor Emissions under the Clean Air Act, 52 Fed. Reg. 25,399 (1987).

[5] *E.g.*, Ohio Rev. Code Ann. § 307.89 (Baldwin, 1986).

[6] Ferrante, *Non-hazardous Municipal Solid Waste: Another Problem - Another Solution*, 9 CAP. U. L. REV. 567, 568-69 (1980).

[7] The United States generates approximately half of the world's industrial and solid waste. Kovacs, *The Coming Era of Conservation and Industrial Utilization of Recyclable Materials*, 15 ECOLOGY L.Q. 537, 538 (1988) [hereinafter *The Coming Era*] (citing WORLD RESOURCES INST. & INT'L INST. FOR ENV'T AND DEV., WORLD RESOURCES 1986, at 252 (1986)).

[8] *Id.* at 539.

[9] Clean Air Act, 42 U.S.C.A. §§ 7401-642 (West 1983); Federal Water Pollution Control Act, 33 U.S.C.A. §§ 1251-387 (West 1986).

discouraged air and water pollution, polluters polluted the land instead.[10] Therefore, Congress enacted the Resource Conservation and Recovery Act (RCRA) in 1976.[11] The Act focuses upon the serious problem of hazardous wastes.[12] Subtitle D prohibits open dumping of non-hazardous solid wastes and sets criteria for landfills.[13] However, the Act does not give the EPA any enforcement authority over the states.[14] RCRA merely requires each state to develop an acceptable solid waste management strategy as a condition for federal funding.[15] Due to serious open dumping problems,[16] it took some states several years to submit waste management plans which the EPA approved.[17]

The EPA[18] and Congress[19] have emphasized hazardous waste, while they have virtually ignored the solid waste problem. The states have also failed to live up to the spirit of the RCRA.[20] However, as landfills began to close in the Northeast, states began to act.[21]

LANDFILLS - CONGRESS' SUGGESTED "SOLUTION"

In 1987, the United States disposed eighty percent of its municipal solid wastes in the country's ten thousand landfills.[22] Other than dumping, landfilling is the cheapest means to dispose of municipal solid waste.[23] Some states even require municipalities to award waste collection and disposal contracts to the lowest

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[10] *Monograph No. 6*, ENV'T REP. (BNA) at 1 (Oct. 7, 1977) [hereinafter *Env't Rep. I*]. Communities prohibited leaf burning to protect the air, so yard wastes went to landfills. Cook, *Not in Anybody's Backyard*, FORBES, Nov. 28, 1988, at 182 [hereinafter *Backyard*].

[11] Resource Conservation and Recovery Act, Pub. L. No. 94-580, 90 Stat. 2795 (1976) (codified as amended at 42 U.S.C.A. §§ 6901-92k (West 1983).

[12] *Id.* §§ 6921-34.

[13] *Id.* at § 6944, 6945; Although open dumps were considered unacceptable, this was the primary means of disposal of most municipal wastes. *Env't Rep. I, supra* note 10.

[14] 42 U.S.C.A. § 6947 (West 1983).

[15] *Id.*

[16] West Virginia did not have even the protection of landfills. Much of the state did not even have access to regular solid waste collection services. These households were forced to resort to open dumping. *Problems Associated with the Management of Solid Wastes: Is there a Solution in the Offing?*, 83 W. VA. L. REV. 131, 137 (1980); Because of limited statutory authority, Oregon could not prohibit open dumping. Partial Approval of Oregon Solid Waste Management Plan, 47 Fed. Reg. 26,835 (1982) [hereinafter Partial Approval].

[17] Partial Approval, *supra* note 16, at 26,835.

[18] The Environmental Protection Agency Regulatory Agenda, 54 Fed. Reg. 17, 258 (1989).

[19] Congress appropriated $32 million for solid waste management in 1980, $0 in 1984 and $3.2 million in 1988. Overall RCRA funding has increased over this period, from $65.6 million in 1980 to $40.8 million in 1988. *The Coming Era, supra* note 7, at 550 (citing *Hearing on the Resource Conservation and Recovery Act Concerning the Federal Policy on Municipal Solid Waste Before the Subcomm. on Hazardous Waste and Toxic Substances*, 100th Cong., 1st Sess. 369 (1987)).

[20] *Recycling*, 9 J. ENERGY L. & POL'Y 213, 234 (1989) [herein after *Recycling*].

[21] *The Coming Era, supra* note 7, at 560.

[22] Fed. Reg. 25, 399, 25,400 (1987). On the other hand, Japan sends only twenty-seven percent of its solid waste to landfills. *Backyard*,supra note 10, at 172.

[23] *Monograph no.12* 3 Env't Rep. (BNA) no.13 (July 28, 1972), p.6 [hereinafter *Env't Rep.II.*].

bidder.[24] This purely economic approach is frequently criticized because it does not consider the societal costs of landfilling.[25]

In addition to the diminishing availability of Landfills,[26] they also pose two significant environmental threats: methane gas and leachite.[27] Methane gas, generated by decomposition of garbage, can collect in nearby buildings and eventually cause explosions.[28] Leachite, a liquid containing waste bacteria and other contaminants, can drain out of landfills and contaminate the surface and ground water.[29] Landfill operators can use Landfill Liners to minimize the danger.[30] However, this protective measure will not remedy existing landfills which already contain refuse buried in unlined holes. Critics also claim that all landfills will eventually leak regardless of how they are constructed.[31]

Some states and communities have banned out-of-state garbage to conserve their landfill space and to protect their communities from hazardous wastes.[32] However, the Supreme Court has held that a ban based solely on the out-of-state nature of the waste violates the commerce clause.[33] However, the Court did not decide whether the commerce clause would restrict the state's protection of its own landfills.[34] A lower federal court more recently has upheld a ban on foreign garbage which fell within this "loophole."[35]

Out-of-state bans may preserve the banning states landfill space. However, the bans seriously hamper the densely populated states which have exhausted their own landfill space and must, necessarily, rely upon other states' space. These bans isolate the states and forces them to work against each other. This undermines national coordination of solid waste management plans. RCRA's focus on landfills

[24] *See, e.g.*, OHIO REV. CODE ANN. § 6123.04(1)(i) (Baldwin 1989).

[25] *Recycling and Resource Recovery: State and Municipal Legal Impediments*, 7 COLUM. J. OF ENVTL. L. 1, 7 (1980) [hereinafter *Recycling and Resource Recovery*]; Landfill fees do not reflect the cost of landfill depletion, the opportunity cost of the land or the potential environmental damage. *The Coming Era, supra* note 7, at 540.

[26] The EPA projects that seventy-five percent of all existing landfills will be closed within fifteen years. *The Coming Era, supra* note 7, at 539 (citing 1 EPA Report to Congress, Solid Waste Disposal in the United States 14 (1989)).

[27] *Recycling, supra* note 20, at 218-20.

[28] *Env't Rep. I, supra* note 10, at 7.

[29] *Id.*

[30] *Recycling, supra* note 20, at 220.

[31] *The Garbage Problem and a Sensible Solution for Your Community*, 14 CURRENT MUN. PROBS., 1, 9 (1987) [hereinafter *The Garbage Problem*].

[32] *See, e.g.*, R.I. GEN. LAWS § 23-19-13.1 (1989).

[33] City of Philadelphia v. New Jersey, 437 U.S. 617 (1978). (A New Jersey law prohibited the importation of waste from outside the state. The Supreme Court rejected New Jersey's argument that it had the right to stop the flow of interstate waste to preserve its landfill space. New Jersey could not force this burden on interstate commerce.)

[34] *Id.* at 627 n.6.

[35] *See* LaFrancois v. Rhode Island, 669 F. Supp. 1204 (D.R.I. 1987) (Ban on out-of-state garbage did not violate commerce clause because the only landfill in the state was owned and operated by the state. Thus, the state fell within the market participant exception to the commerce clause).

as as solution was bound to lead to this scramble for space. These struggles to find precious landfill space evidence a problem that municipalities, states and the EPA have ignored for too long: this country needs to develop realistic alternatives to landfilling its garbage.

LANDFILLING ALTERNATIVES:

Combustion -

Up to seventy-nine percent of household trash is combustible.[36] Combustion could reduce municipal solid waste by seventy to ninety percent, and thus extend the life of existing landfills.[37] Early feasibility studies of garbage incineration focused almost exclusively on economic factors.[38] Thus, in the 1970s and early 1980s, refuse-to-energy projects seemed to be a reasonable means to slow the growth of the nation's mounting heaps of garbage.[39]

This "solution" was also a response to rising fuel costs.[40] The plastics industry believed that incineration would solve the plastics disposal problem and provide an inexpensive and efficient fuel source.[41] Plastics manufacturers apparently failed to realize that plastics emit harmful gases when burned.[42] Although some project officials saw potential problems,[43] most remained optimistic about the future of municipal waste incineration.[44] The EPA admitted that these facilities would emit pollutants into the air, but the agency insisted that wet scrubbers and other control mechanisms would minimize emissions.[45]

The EPA concluded that its loans to these facilities did not constitute "major federal action significantly affecting the quality of the environment."[46] Thus, the EPA would not issue an environmental impact statement. An environmental impact statement would have served to force the agency to consider all reasonable alterna-

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[36] *Recycling, supra* note 20, at 222.

[37] Assessment of Municipal Waste,*supra* note 4, at 25,400.

[38] *See, Env't Rep. I, supra* note 10, at 8-9.

[39] Cities around the country watched as Osceola opened its $1.1 million plant which could burn all of the city's garbage as well as that of nearby industries. Fletcher,*City of Osceola Burns Garbage to Produce Energy*, 7 CURRENT MUN. PROBS. 278 (1981); Environmental Assessment,supra note 3, at 67,039.

[40] The EPA planned to issue price support loans for municipal waste-to-energy projects. Its stated purpose was to reduce the United States' dependence on foreign oil. Price Support Loans for Municipal Waste Energy Projects, 45 Fed. Reg. 71,746, 71,750 (1980); *Solid Wastes Fuel District Heating Comeback*, 7 CURRENT MUN. Probs. 465, 467 (1981).

[41] Because plastic is a petroleum product, it would make an excellent fuel. *ENV'T REP. II, supra* note 23, at 10.

[42] *The Garbage Problem, supra* note 31, at 11.

[43] Weiner, *Denver Studies Burning Trash for Steam Heat*, 3 SOLAR L. REP. 209, 210 (1981).

[44] *E.g., Sanitation Authority to Generate Electricity*, 2 SOLAR L. REP. 252 (1980); Environmental Assessment, *supra* note 3, at 67,038-39.

[45] 45 Fed. Reg. at 67, 039.

[46] *Id.*; National Environmental Policy Act of 1969, 42 U.S.C.A. § 4332 (West 1988).

tives, and their environmental effects.[47] Thus, the EPA granted government loans to combustion facilities without fully considering their environmental impact or the availability of alternative refuse reduction methods.

Despite the optimism of the EPA and others,[48] municipal solid waste incineration poses numerous problems. In addition to the high cost,[49] and numerous operational problems of combustion,[50] incineration produces emissions and ashes which may pose serious health threats.[51] Fly ash is normally buried in landfills, and it is unknown whether this ash is toxic.[52]

The EPA continues to favor incineration of municipal solid waste. In 1987, there were 111 combustors in operation. The EPA expects 300 operational combustors by the mid-1990s.[53] The EPA highlights the significant emission control technology advances, yet the combustion facilities continue to emit at least eighteen different pollutants.[54] Ten of these pollutants are potentially carcinogenic.[55] However, the EPA has concluded that the cancer risk[56] does not warrant the listing of these emissions as hazardous pollutants under the Clean Air Act.[57] The EPA concluded that emissions could "reasonably be anticipated to endanger public health."[58] Therefore, section 111 of the Clean Air Act will apply to new facilities.[59]

Aside from the environmental threats of solid waste combustion, this disposal method does not solve municipal waste disposal problem. Burning garbage does reduce the volume of material, but the process yields a significant amount of residue and ash which must still be added to crowded landfills.[60] This residue does not de-

[47] *Id.*

[48] 45 Fed. Reg. at 67,039.

[49] Capital expenditures for a large plant range from 100 to 400 million dollars. *Recycling and Resource Recovery, supra* note 25, at 53.

[50] There are storing and buring difficulties. *Refuse-derived Fuel Projects and get Mixed Reaction*, 109 PUB. UTIL. FORT. 52 (Apr. 15, 1982); Mixed garbage presents many problems: pieces jam equipment, airborne particles create a workplace hazard, unsuitable materials are difficult to remove by hand, and it produces a liquid effluent which creates disposal problems. *The Garbage Problem*, supra note 31, at 8-9.

[51] *Recycling, supra* note 20, at 221-25.

[52] *Id.*, at 221-22. Toxic and hazardous substances (cleaning agents, plastics, etc.) are frequently part of household garbage, so it is reasonable to assume that the ash could be toxic.

[53] Assessment of Waste Combustor, supra note 4, at 25,400.

[54] Pollutants include arsenic, beryllium, carbon monoxide, cadmium, chlorobenzenes, chlorophenois, chromium, chlorinated dioxins and dibenzofurans, formaldehyde, hydrgen chloride, lead, mercury, nitrogen oxides, particulate matter, polychlorinated biphenyls (PCB), polycyclic aromatic hydrocarbons and sulfer oxides. *Id.* at 25,402, 25,404.

[55] Suspected carcinogens: CDD/CDF, chlorophenois, chlorobenzenes, formaldehyde, polycyclic aromatic hydrocarbons, PCB, arsenic, beryllium, cadmium and chromium. *Id.* at 25,405.

[56] EPA studies estimated that emissions of these pollutants individually could cause .05 - .7 total cases per year nationally. *Id.* at 25,405-06.

[57] *Id.*; 42 U.S.C.A. § 7412 (West 1989). The Act sets the most stringent emission standards for hazardous pollutants.

[58] *Id.* at § 7408(a)(1)(A) (West 1989).

[59] Section 111 sets emissions limitations for new stationary sources of pollution. The facility must demonstrate to the EPA that it employs the best technological system of continuous emission reduction. *Id.*

[60] *The Garbage Problem*, supra note 31, at 12.

compose and shrink as does landfilled garbage.[61] The net reduction in burial volume is only about twenty-five percent.[62] These refuse-to energy facilities also demand a steady supply of trash to fuel operations. Thus, this process actually encourages the wasting of resources, rather than conservation.[63] If this disposal mechanism were operated cross-country, energy supply could surpass current demand.[64]

Recycling

Many consumer products, including containers, paper, glass, textiles, metals, aluminum, some plastics, automotive batteries and many household hazardous wastes[65] are currently recyclable. Seattle abandoned its incineration project due to the success of its recycling program. More than sixty percent of the city's households participate to recycle almost thirty percent of the city's household garbage.[66] Over five hundred cities throughout the United States now regularly collect recyclable materials.[67] In addition, ten states now have mandatory recycling laws.[68]

Recycling can ease the solid waste disposal problem and also save millions of dollars of natural resources.[69] The EPA has long recognized these benefits, but has devoted little monetary or regulatory support to recycling programs.[70] However, some states prefer recycling as a primary means of waste management.[71]

Commentators urge recycling proponents to realize the market concept of recycling. The whole cycle is essential: separation, collection, processing and reuse.[72] Successful recycling programs must address every step of this cycle. From the outset, the recycling cycle relies upon a supply of used materials from consumers. "Consumers are reluctant to recycle because it is inconvenient."[73] Households must clean, separate, store and sometimes deliver the items to a collection center.[74] The EPA believes that market forces will eventually balance supply and demand in

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[61] *Id.* at 9.

[62] *Id.*

[63] *Id.* at 16; *See* PA. STAT. ANN. tit. 53, § 4000.303 (Purdon 1989); County may not allow incineration of recyclable materials.

[64] *Recycling and Resource Recovery, supra* note 25, at 55.

[65] Motor oil, solvents, anti-freeze, cleaning agents, insecticides and paints are recyclable. *The Garbage Problem, supra* note 31, at 3-6.

[66] Seattle's new goal is to recycle 50% of city's garbage. Egan, *In Seattle, A Garbage Success Story*, N.Y. Times, Mar. 19, 1989, § 4, at 6, col. 4.

[67] Stevens, *When the Trash Leaves the Curb, New Methods Improve Recycling*, N.Y. Times, May 2, 1989, at C1, col. 1.

[68] *Id.*; *see, e.g.*, CONN. GEN. STAT. ANN. § 22a-241 (West 1989).

[69] *Recycling and Resource Recovery, supra* note 25, at 2-3.

[70] EPA deputy assistant administrator of solid waste management did not think that recycling was a reality in the early 1970s. He stressed market forces and economic factors more than the environmental significance of recycling. The recycling market needed to prove itself to receive EPA support. *Id.* at 2.

[71] *See, e.g.*, Ill. ANN. STAT. ch. 85, para. 5952, § 2(a)(3) (Smith-Hurd Supp. 1989).

[72] *The Coming Era, supra* note 7, at 565.

[73] *See, Recycling and Resource Recovery, supra* note 25, at 6.

[74] *Id.*

the recyclables market.[75] In the early 1970s an EPA official commented that consumers were becoming more selective and mindful of recyclability.[76] However, these same selective consumers forced the glass industry out of the milk business because it did not offer a nonreturnable container.[77] A strong national preference for convenience products has strengthened the markets for disposable diapers and razors, and microwavable and fast food meals on disposable trays. The market forces actually appear to be distancing consumers from recycling.

Consumers need a reason to endure the inconvenience of recycling. Concern for the environment may not be enough. When people are pressured or motivated, they recycle. In Japan and Germany, where resources and landfill space are extremely tight, the majority of the population recycles.[78] During World War II, recycling was very successful in this country.[79] Today, however, most Americans are not compelled to recycle. The states should not wait until their residents are motivated to recycle.

States and municipalities should provide consumers with incentives to participate in recycling programs. Monetary incentives may encourage recycling[80] and decrease solid waste generation.[81] Seattle charges higher collection rates for trash which is not recycled. This incentive has helped the city achieve an impressive sixty percent participation rate in the first year of its recycling program.[82]

There is a growing supply of recycled materials, but a corresponding demand must also develop. [83] The potential source of demand requires a steady supply of quality materials at prices which are cost competitive.[84] Some experts worry that the demand is not expanding quickly enough to absorb the current flow of recycled products, especially newspaper.[85] However, the demand for recycled plastics is growing faster than the supply.[86] Optimistic experts believe that adequate demand will emerge once a steady supply of quality products develops.[87]

Because recycled products are generally more expensive and of lesser quality,

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[75] *Env't Rep. II, supra* note 23, at 2; *see* The Coming Era, *supra* n.7, at 558.
[76] *Id.*
[77] *Id.* at 5.
[78] *Recycling: Coming of Age*, 15 CURRENT MUN. PROBS. 177, 179 (1988) [hereinafter *Recycling: Coming of Age*].
[79] *Id.* at 180.
[80] *See, e.g.*, Ill. ANN. STAT., ch. 85, para. 5956 (Smith-Hurd Supp. 1989).
[81] *Env't Rep. I, supra* note 10, at 13.
[82] *Egan, supra* note 67, at 6, col. 5.
[83] *The Coming Era, supra* note 7, at 565.
[84] *Recycling: Coming of Age, supra* note 78, at 186-87.
[85] Stevens, *supra* note 68, at C1, col. 3.
[86] This recycled product has a strong price advantage. The cost of producing new polymers is almost ten times the cost of recycled materials. *Waste not, want not: Not Necessarily*, BUSINESS WEEK, July 17, 1989 at 116-117.
[87] Stevens, *supra* note 68, at C1, col. 3.

reuse demand is discouraged. To help create a demand for recycled products, several states have adopted legislative preferences for the purchase of recycled materials, especially paper.[88] These preferences sometimes include tax incentives.[89] However, most recycling tax credit proposals have been unsuccessful.[90] More often, states merely require state and local agencies to purchase recycled products whenever reasonable.[91]

Consumer prices do not reflect the disposal costs of solid waste.[92] Prices for virgin resources also fail to reflect the social costs of depleting natural resources.[93] Product disposal surcharges could reflect these costs. Surcharge plans usually provide an exemption for recycled materials.[94] Thus, these materials would become more cost-competitive. The EPA may have the power to set price differentials that favor recycled goods, but the agency has yet to do so.[95]

Product Deposits

A refundable deposit added to the price of a product can motivate people to redeem the product. Some states[96] have legislated mandatory deposits on beverage containers. This strategy provides a greater incentive to store and redeem the product, but it also presents numerous burdens beyond the inconvenience to the manufacturer, retailer and consumer.[97] "Bottle Bills" primarily address litter problems.[98] Abandoned beverage containers comprise forty to sixty percent of all litter.[99] However, beverage containers account for only seven percent of municipal solid waste.[100] Thus, bottle bills are not really an alternative to recycling programs, but may supplement recycling. However, in states where recycling is successful,

[88] *See, e.g.*, ME. REV. STAT. ANN. tit. 5, 1812 (West Supp. 1989); Iowa Code Ann. § 18.18 (West 1989).
[89] *See, e.g.*, N.J. STAT. ANN. § 13:1E-99.3 (West Supp. 1989).
[90] Tax credits are normally given to the industrial purchasers. The indirect saving to the consumer may not be enough to increase demand. *The Coming Era, supra* note 7, at 578.
[91] *See, e.g.*, CAL. [PUB. CONT.] CODE § 10,391 (West 1989) (repealed); MD. [STATE FIN. & PROC.] CODE ANN. § 14-402 (1988).
[92] The Coming Era, *supra* note 7, at 543-44.
[93] *Id.*
[94] *Env't Rep. I, supra* note 10, at 12-13.
[95] *See* National Recycling Coalition Inc. v. Reilly, 884 F.2d 1431 (D.C. Cir. 1989); Under 6982(j) of RCRA, a Resource Conservation Committee was established in 1976. The committee published two reports which explained the significance of tax incentives, disposal charges and product use. However, ten years later the EPA still would not recommend tax incentives to encourage conservation. *Recycling, supra* note 20, at 213.
[96] *See, e.g.*, OHIO REV. CODE ANN. § 459.810-459.890 (1987).
[97] Increased prices tend to decrease sales. Decreased need for cans and bottles leads to unemployment of skilled workers. The retailers must set aside space and manpower to accommodate returned containers, which can also create sanitation problems. Weinberg, *Mandatory Deposit Legislation in Virginia: Recycling the Bottle Bill*, 7 VA. J. NAT. RESOURCES L. 175, 198-204 (1987). [hereinafter *Mandatory Deposit Legislation*].
[98] Wagenbach, *The Bottle Bill: Progress and Prospects*, 36 SYRACUSE L. REV. 759, 773-74 (1985) [hereinafter *Bottle Bill Progress*].
[99] *Id.* (citing Office of Solid Waste Management Programs, Envtl. Protection Agency, Fourth Report to Congress: Resource Recovery and Waste Reduction 27 (1977)).
[100] *Mandatory Deposit Legislation, supra* note 97, at 193.

residents may disfavor mandatory deposits.[101] However, in conjunction with recycling bottle deposits could reduce litter.[102]

The product deposit strategy could not realistically promote widescale recycling. The product deposit provides the "save, rinse and store" incentive which voluntary recycling programs often lack; however, this same incentive prevents this system from expanding to a wide variety of products. The consumer must personally redeem his products to receive a refund of his deposit. Retail stores could no longer provide adequate storage space or manpower to accommodate redemption. Thus, the redemption centers would no longer be convenient to consumers. It would be impractical to expand the deposit system to cover the materials which are currently recyclable.

The beverage industry extensively lobbied and successfully fought bottle bill campaigns in many states.[103] Each industry whose products would be affected by product deposits would vigorously oppose them. Many consumers would likely join the industry opposition. Households may be willing to pay a five cent bottle deposit, or they can choose to do without. However, that same five cents added to half the items in the shopping cart would be unavoidable, and could significantly burden the average household.

Product Bans

Bans on nonrecyclable products can supplement recycling programs. Minneapolis, Minnesota, Berkley, California and Suffolk County, New York have all banned the use of polystyrene plastic for fast food and local retail food packaging.[104] Several other cities are considering similar bans.[105] Critics argue that these bans will backfire.[106] Both paper and plastic food packaging are discarded.[107] Moreover, paper packaging cannot be recycled once it is contaminated with food.[108]

In response to these bans, the plastics industry has developed technology to recycle polystyrene foam products, including those contaminated with food.[109] The recycled product can be used to make hard plastic products, such as baskets and insulating board.[110] The success of this recycling is contingent upon the industry's

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[101] *Bottle Bill Progress, supra* note 98, at 788 (citing Martinez, *Profitable Recycling Can Help Fight Mandatory Deposit Laws*, BEVERAGE INDUSTRY, Feb. 25, 1983, at 1, 28).
[102] *See, e.g.*, FLA. STAT. ANN. § 403.7145 (West Supp. 1990).
[103] *Bottle Bill Progress, supra* note 98, at 772.
[104] Schmidt, *Local Laws Take Aim at Indestructible Trash*, N.Y. Times, Apr. 23, 1989, § 4, at 4, col. 1.
[105] *Id.*
[106] *The Coming Era, supra* note 7, at 600-02.
[107] We should look at the volume of trash, not the material. *Id.*
[108] *Id.* (citing Am. Paper Inst., Inc. Paper Recycling and its Role in Solid Waste Management (1988) (pamphlet prepared by the Paper Recycling Institute of the American Paper Institute)).
[109] Holusha, *Plastic Trash: "Silk Purses" Sought*, N.Y. Times, May 3, 1989, at D1, col. 3.
[110] *Id.*

ability to absorb this additional expense.[111]

Product bans seem to force recycling, even though through "negative" means.[112] However, negative means may sometimes achieve the best and most expedient results. Both the Clean Air Act[113] and the Federal Water Pollution Control Act[114] employ negative means to force pollution control technology. If the EPA and the states can employ technology-forcing standards to protect the nation's air and water, they should, likewise, be able to protect the land. Product bans may compel the technology which would make widespread recycling a realistic alternative to landfilling.

STATES' RESPONSIBILITY

Municipalities are primarily responsible for solid waste management.[115] This "low-level" control creates several problems. Municipalities lack the necessary funds and expertise to to fully investigate and implement the optimal alternatives.[116] Municipalities normally are not required to work together. Thus, they usually develop solid waste disposal plans in isolation, and sometimes achieve absurd results.[117]

Numerous political factors influence municipal decision makers.[118] If they pursue a stringent course of action, they risk political ramifications, and they may drive industry out of town. Thus, solid waste management strategies often seek to make everyone happy, rather than to preserve the environment. Most people have no idea where there trash goes when it leaves their curb, and they would prefer to leave it that way.[119] Landfills are hidden - people don't see them and usually don't have to deal with them. Residents don't complain as much about landfilling as they do about the alternatives.[120] Incineration may pose some solution, but the resulting air pollution burdens residents. Thus, they complain about it. Recycling poses a direct burden on constituents. Politicians avoid placing these burdens on voters.

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[111] Polystyrene has appeal because it is inexpensive - it currently sells for $.55 - $.60 per pound. McDonald's and other chief customers may find another product if the cost of polystyrene climbs too high. Id.

[112] Critics of plastics bans stress that recycling must remain a positive force. *The Coming Era, supra* note 7, at 600.

[113] 42 U.S.C.A. § 7401 (West 1983). (The Act focuses on air quality, not technological availability of pollution control devises. Thus, the regulations "force" technology.)

[114] 33 U.S.C.A. § 1251 (West 1986). (This Act also focuses on water quality rather than technological availability.)

[115] *See* Flonio, *The Solid Waste Crisis*, 9 SETON HALL LEGIS. J. 399, 400-02 (1985).

[116] *Id.*

[117] Officials of two New Jersey counties sited two separate resource recovery facilities within a ten mile area. An invisible county line presented coordination of solid waste management plans. *Id.*

[118] DelBello, *The Politics of Garbage: The Influence of the Political Process on the Construction of Refuse-to-energy Plant*, 15 COLUM. J. ENVTL. L. 357, 358 (1989).

[119] *Id.*

[120] *Id.* at 362-63.

Concern for the environment does not motivate action until the situation is severe.[121] If municipalities continue to wait until their landfill space is gone, like New York, they will be forced to take drastic and hasty action.

The EPA has failed to fully exercise its limited power in this area. States are realizing that the federal government has not required enough action. Therefore, the states must take the initiative. In addition to mandatory recycling[122] and resource recovery programs,[123] the states are striving for coordination and accountability.[124]

However, these state actions need to be supplemented by federal coordination. States need to work together, rather than in isolation or in competition with each other. The states, like the municipalities, will worry about alienating industry. [125] Thus, they will probably not offer strong incentives to create a demand for recycled products. Federal action, although motivated by political pressures as well, could impose regulations which would put all the states on even ground. However, until Congress takes further action, the measures initiated by the states are essential.

CONCLUSION

Congress and the EPA have not encouraged a solution to the solid waste management disposal other than landfilling. Widespread Landfilling wastes our natural resources and threatens our health and environment. The EPA has half-heartedly encouraged incineration as an alternative to landfilling. However, this alternative threatens health and the environment and conserves little space. Recycling and complimentary alternatives seem to be the best alternatives to landfilling. However, the federal government has given little encouragement to these programs. Some states have attempted to fill in the gaps left by Congress and the EPA. More states need to take similar action. Eventually Congress will need to respond. Solid waste management programs require national coordination to achieve optimal results.

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[121] New York City initiated a recycling plan after its landfill space had been exhausted. There was no time for any pilot programs or phase-in period. Immediate, city-wide recycling was necessary. N.Y. Times, Mar. 29, 1989, § 2, at 3, col. 2.

[122] *See. e.g.*, ILL. STAT. ANN. ch. 85, para. 5952 (Smith-Hurd Supp. 1989).

[123] *See, e.g.*, PA. STAT. ANN. tit. 53, § 4000.303(a)(4) (Purdon Supp. 1989).

[124] *See, e.g.*, FLA. STAT. ANN. § 403.705(1)(b) (West Supp. 1989).

[125] *The Coming Era*, supra note 7, at 577.